

# Product Specification

300Mbps Dual Band 802.11n Wireless Gigabit Router

## WDRT-731U

Version 1.0

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Change History:

| Revision    | Date       | Author | Change List     |
|-------------|------------|--------|-----------------|
| Version 1.0 | 2012/08/29 | Miki   | Initial Release |

|              |      |              |      |
|--------------|------|--------------|------|
| Author       | Miki | Editor:      | Miki |
| Reviewed by: | Kent | Approved by: | Tom  |

## 1. PRODUCT DESCRIPTION



### **2.4G & 5G Simultaneous Dual Band Wireless Connectivity**

Since there are more and more wireless applications of various electric devices using the radio frequency of 2.4GHz, the wireless channel of 2.4GHz has been already too crowded for clients to enjoy the high-speed wireless connection. In order to avoid the wireless interference of each other, WDRT-731U provides users the radio frequency of 5GHz for watching HD videos or playing online games. At the same time, other users can still surf the Internet via the original radio frequency of 2.4 GHz simultaneously. It is just like there are 2 totally independent Access Points for you.

### **Multiple Network Technologies for Incredibly 600Mbps High-Speed Connection**

WDRT-731U supports IEEE 802.11a/b/g/n dual band standard with 2T2R antenna technology, therefore it provides the wireless speed up to 300+300Mbps which is 12X fast of traditional 11g Access Point. Moreover, WDRT-731U is equipped with all Gigabit Ethernet Ports. Compared with general wireless routers, WDRT-731U offers faster transmitting speed for the network applications and more convenient method to enable or disable wireless signal.

### **Fully Support of Wireless Security Encryption**

To secure the wireless communication, the WDRT-731U supports up-to-date encryption technology, WPA/WPA2 and WPA-PSK/WPA2-PSK with TKIP/AES. To simplify the wireless security settings, WDRT-731U supports Wi-Fi Protected Setup (WPS) configuration with PBC/PIN methods. By just clicking the WPS button, the secure connection between AP and wireless client will be built immediately.

### **IPTV Pass-through for Video On Demand**

WDRT-731U featuring an IPTV-specific port which enables the IPTV Set-Top-Box (STB) connects directly by passing through the LAN port. The IPTV feature makes it possible to enjoy online videos on your TV set via Set-Top-Box (STB) through WDRT-731U while surfing Internet. The IPTV port can also function as a LAN port if IPTV service is not enabled.

### **More Flexible File Sharing over USB port**

WDRT-731U built-in with one USB 2.0 port can be connected to a USB printer or storage for file sharing.

It can auto recognized the USB printer or storage automatically without user experience. Thus all clients on the network can share printer or mass storage on WDRT-731U without complicated network configuration. The USB port also output 5V DC power can charge any USB compliant devices.

### **Powerful Firewall and Complete Access Control Functions**

The WDRT-731U supports NAT function to allow multiple users to access Internet via a single legal IP. It also provides Virtual Server for the specific LAN PC to act as an application server and offer certain service to the clients on the Internet. Furthermore, the powerful firewall protects your Intranet PCs from unauthorized accesses and various kinds of DoS attacks from the Internet. In the aspect of firewall, the WDRT-731U supplies IP-based and MAC-based access control and prevent possible hackers attack.

### **Easy Setup for Multiple Wireless Modes**

WDRT-731U supports multiple wireless modes, AP, Wireless Bridge, and Repeater, for different network application. Furthermore, with the built-in Quick Setup function, users can configure WDRT-731U easily and quickly as they need through simply a couple of steps. It is so easy to combine it with the existing wired network. WDRT-731U definitely provides a total network solution for the home and the SOHO users.

## **2. PRODUCT FEATURES**

### ➤ **IEEE Compliant Wireless LAN & Wired LAN**

- Compliant with IEEE 802.11a/b/g/n dual-band (2.4G&5G) wireless technology capable up to 300+300Mbps data rate
- Equipped with all Gigabit RJ-45 ports (10/100/1000Mbps) of 1 WAN and 4 LAN ports
- Auto MDI/MDI-X supported
- LAN4 supports IPTV Pass-through enables you enjoy online videos

### ➤ **Fixed-network Broadband Router**

- Supported WAN connection types: Dynamic IP/ Static IP / PPPoE / PPTP / L2TP / PPPoE Dual Access
- Supports Dynamic DNS and DHCP Server

### ➤ **Secure Network Connection**

- Supports Wi-Fi Protected Setup (WPS)
- Advanced security: 64/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK (TKIP/AES encryption)
- Supports NAT firewall, IP / Port / URL-based access control and MAC address Filtering
- Support Dual-SSID to allow users to access different networks through a single AP

### ➤ **Advanced Networking function for Specific Application**

- Supports Bandwidth Control (QoS) based on different local IP addresses

- Supports NTP, Virtual Server, UPnP, and DMZ for various networking applications
- Equipped with one USB port for sharing printers and USB mass storages wirelessly

➤ **Easy Installation & Management**

- User Friendly Web-based UI with On-line Help
- Remote Management allows configuration from a remote site
- System status monitoring includes DHCP Client List and System Log

### 3. PRODUCT SPECIFICATION

#### 3.1 MAIN COMPONENT

|        |                   |
|--------|-------------------|
| CPU    | Broadcom BCM47186 |
| RF     | Broadcom BCM43236 |
| Switch | Broadcom BCM53125 |
| RAM    | 64 MB             |
| Flash  | 8 MB              |

#### 3.2 FUNCTIONAL SPECIFICATIONS

|                        |   |  |
|------------------------|---|--|
| Product                | WDRT-731U<br>300Mbps Dual-Band 802.11n Wireless Gigabit Router  |  |
| Hardware Specification |   |  |
| Interface              | WAN Port:   | 1 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 port           |
|                        | LAN Port:   | 3 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 ports (LAN1~3) |
|                        | IPTV Port:  | 1 x 10/100/1000Mbps Auto MDI/MDI-X RJ45 port (LAN4)    |
|                        | USB Port :  | USB 2.0, Type-A, 5V DC/0.5A Output                     |
| Antenna                | Gain:   | 2 x 5dBi fixed antenna                                 |
|                        | Orientation:  | Omni-directional                                       |
| Reset / WPS Button     | Reset / WPS button at rear panel<br>Press for about 7 seconds to reset the device to factory default.<br>Press for 1 second to activate WPS function. |  |
| LED Indicators         | PWR/SYS, WLAN (2.4G & 5G) x 2<br>WAN (Link & 1000Mbps) x 1<br>LAN (Link & 1000Mbps) x 3<br>IPTV (Link & 1000Mbps) x 1<br>USB, WPS                     |  |
| Material               | Plastic   |  |
| Dimension (W x D x H)  | 171.61 x 111.16 x 25.47 mm (W x D x H)  |  |
| Weight                 | 250g  |  |
| Power Requirement      | 12V DC, 1A  |  |

|   |  |
|---|--|
| <b>Power Consumption</b>                | Maximum of 8 Watts   |
| <b>Wireless interface Specification</b> |  |
| <b>Standard</b>                         | Compliance with IEEE 802.11a/b/g/n   |
| <b>Frequency Band</b>                   | Simultaneous 2.4 GHz and 5 GHz<br>2.4G: 2.400-2.484GHz<br>5G: 5.180-5.240GHz, 5.745-5.825GHz   |
| <b>Modulation Type</b>                  | DSSS(DBPSK/DQPSK/CCK)<br>OFDM(BPSK/QPSK/16QAM/64QAM)<br>MIMO   |
| <b>Data Rates</b>                       | 11n: (20MHz): MCS0-7, 32 with Half Guard Interval Support (up to 72Mbps);<br>(40MHz): MCS0-7, 32 with Half Guard Interval Support (up to 150Mbps)<br>11g: 6/9/12/24/36/48/54Mbps<br>11b: 1/2/5.5/11Mbps<br>11a: 6/9/12/24/36/48/54Mbps   |
| <b>Transmission Distance</b>            | Indoor up to 100m<br>Outdoor up to 300m (it is limited to the environment)   |
| <b>Channel</b>                          | <b>2.4GHz</b><br>America / FCC: 2.412~2.462GHz (11 Channels)<br>Europe / ETSI: 2.412~2.472GHz (13 Channels)<br>Japan / TELEC: 2.412~2.484GHz (14 Channels)<br><br><b>5GHz</b><br>5.180~5.240GHz, 5.745~5.825GHz (9 Channels)<br><br><u>America / FCC</u><br>802.11a/n: 5.180~5.220GHz; 5.745~5.785GHz (36,44,149,157)<br>802.11a: 5.180~5.240GHz; 5.745~5.825GHz (36,40,44,48,149,153,157,161,165)<br><br><u>Europe / ETSI</u><br>802.11a/n: 5.180~5.220GHz (36,44)<br>802.11a: 5.180~5.240GHz (36,40,44,48) |
| <b>Channel Width</b>                    | 20/ 40MHz  |
| <b>RF Power / EIRP</b>                  | <b>2.4GHz:</b><br>11b: 17±1dBm<br>11g: 14.5±1.5dBm<br>11n: 12.5±1.5dBm<br><br><b>5GHz:</b><br>11a: 12±1.5dBm<br>11n: 12±1.5dBm   |
| <b>Receive Sensitivity</b>              | <b>2.4GHz</b><br>11b (11Mbps): -84dBm<br>11g (54Mbps): -68dBm<br>11n 20M (MCS7): -66dBm<br>11n 40M (MCS7): -63dBm  |

|                                     |  |
|-------------------------------------|--|
|                                     | <b>5GHz</b><br>11a (54Mbps): -68dBm<br>11n 20M (MCS7): -66dBm<br>11n 40M (MCS7): -63dBm  |
| <b>Wireless Management Features</b> |  |
| <b>Wireless Modes</b>               | <ul style="list-style-type: none"> <li>■ AP ( Access Point)</li> <li>■ WDS PtP (Point to Point)</li> <li>■ WDS PtMP (Point to Multipoint)</li> <li>■ WDS+AP (Repeater)</li> </ul>  |
| <b>Encryption Security</b>          | WEP (64/128-bit)<br>WPA-PSK (TKIP) / WPA2-PSK (AES)<br>WPA (TKIP) / WPA2 (AES)   |
| <b>Wireless Security</b>            | Provide Wireless LAN ACL (Access Control List) filtering   |
|                                     | Wireless MAC address filtering   |
|                                     | Support WPS (WIFI Protected Setup )  |
| <b>Wireless Advanced</b>            | Support Dual-SSID (2.4G & 5G)  |
|                                     | AP Isolation: Enable it to isolate each connected wireless clients, to let them cannot access mutually.  |
|                                     | Support 802.11e WMM (Wi-Fi Multimedia)   |
| <b>Max. Supported Clients</b>       | Wire: 15<br>Wireless: 10   |
| <b>Router Features</b>              |  |
| <b>Internet Connection Type</b>     | Shares data and Internet access for users, supporting following internet access: <ul style="list-style-type: none"> <li>■ Dynamic IP</li> <li>■ Static IP</li> <li>■ PPPoE</li> <li>■ PPTP</li> <li>■ L2TP</li> <li>■ PPPoE Dual Access</li> </ul> |
| <b>Firewall</b>                     | NAT firewall   |
|                                     | Built-in NAT server which supports Virtual Server, and DMZ   |
|                                     | Built-in firewall with IP address filtering, Port filtering, URL filtering, and MAC address filtering  |
| <b>Routing Protocol</b>             | Static Routing   |
| <b>LAN</b>                          | Built-in DHCP server supporting static IP address distributing   |
|                                     | Support UPnP, Dynamic DNS  |
|                                     | Support Packets Statistics   |
|                                     | IP-based Bandwidth Control   |
|                                     | Session Number: Max. 8000  |
| <b>System Management</b>            | Web-based (HTTP) management interface  |
|                                     | Remote management (WAN Access Control)   |

|                                       |  |
|---------------------------------------|--|
|                                       | SNTP time synchronize  |
|                                       | System Log   |
| <b>IEEE Standards</b>                 | IEEE 802.11n<br>IEEE 802.11a<br>IEEE 802.11g<br>IEEE 802.11b<br>IEEE 802.11i<br>IEEE 802.3 10Base-T<br>IEEE 802.3u 100Base-TX<br>IEEE 802.3ab 1000Base-T |
| <b>Others Protocols and Standards</b> | CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE, SNTP   |
| <b>OS Compatibility</b>               | Windows 7<br>Windows Vista<br>Windows XP<br>Mac OS X 10.4 and higher   |
| <b>Standards Conformance</b>          |  |
| <b>Temperature</b>                    | Operating: 0 ~ 40 Degree C<br>Storage: -40 ~ 70 Degree C   |
| <b>Humidity</b>                       | Operating: 10 ~ 90% (Non-Condensing)<br>Storage: 5 ~ 90% (Non-Condensing)  |
| <b>Regulatory</b>                     | FCC, CE, RoHS, WEEE  |

### 3.3 Physical Specification

#### Dimension

171.61 x 111.16 x 25.47 mm (W x D x H)

#### Weight

250g

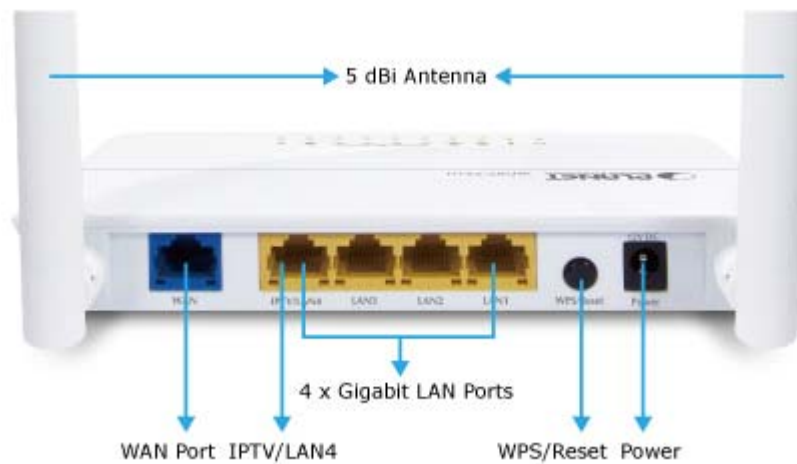
## Front Panel



| LED<br>(Left to Right) | COLOR         | STATE | FUNCTION  |
|------------------------|---------------|-------|---|
| <b>PWR</b>             | <b>Yellow</b> | On    | Device power on   |
|                        |               | Flash | The system is working properly                                  |
|                        |               | Off   | Device power off  |
| <b>WPS</b>             | <b>Yellow</b> | Flash | The system is performing WPS authentication on a client device. |
| <b>5G</b>              | <b>Yellow</b> | On    | The 5G WiFi is activated  |
|                        | <b>Yellow</b> | Flash | Device is transmitting data wirelessly over 5GHz                |
| <b>2.4G</b>            | <b>Yellow</b> | On    | The 2.4G WiFi is activated                                      |
|                        | <b>Yellow</b> | Flash | Device is transmitting data wirelessly over 2.4GHz              |
| <b>LAN 1~4</b>         | <b>Yellow</b> | On    | Link is established   |
|                        |               | Flash | Packets are transmitting or receiving                           |
|                        |               | Off   | LAN port is not connected                                       |
| <b>WAN</b>             | <b>Yellow</b> | On    | Link is established   |
|                        |               | Flash | Packets are transmitting or receiving                           |
|                        |               | Off   | WAN port is not connected                                       |
| <b>USB</b>             | <b>Yellow</b> | On    | The USB port is correctly connected                             |
|                        |               | Off   | The USB port is not connected                                   |



## Rear Panel



## Button definition

| Object           | Description  |
|------------------|--|
| <b>WPS/Reset</b> | <p>Press the Reset button gently for 1 second and then release it. The system starts to WPS connection.</p> <p>Press the Reset button gently for 7 seconds and then release it. The system restores to the factory default settings.</p> |

## Side Panel



### 3.4 Environmental Specification

#### Temperature

Operating: 0 ~ 40 degree C

Storage: -40 ~ 70 degree C

#### Humidity

Operating: 10 ~ 90% (Non-Condensing)

Storage: 5% ~ 90% (Non-Condensing)

### 3.5 ELECTRICAL SPECIFICATION

|                       |              |   |
|-----------------------|--------------|---|
| Device Input Voltage: | 12V DC / 1A  |   |
| Power Adapter:        | Power Input  | 100~240, 50-60Hz, 0.3A Switching Power Supply |
|                       | Power Output | 12V DC / 1A                                   |

### 3.6 Regulatory Compliance

CE, FCC, RoHS, WEEE

### 3.7 BASIC PACKAGING

- WDRT-731U x 1
- Power Adapter x 1
- CD (Includes User's Manual) x 1
- Quick Installation Guide x 1
- Ethernet Cable x 1

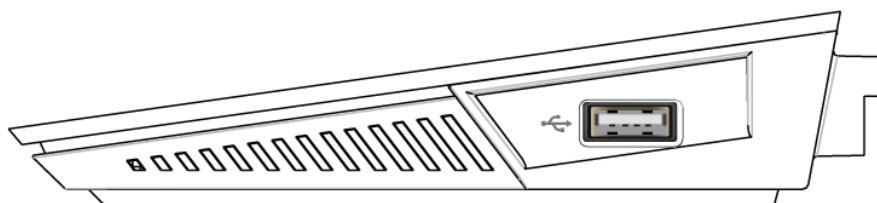
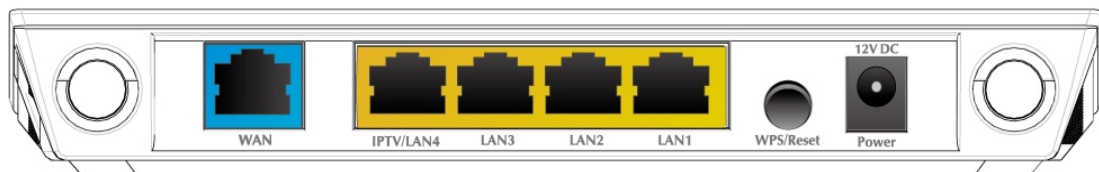
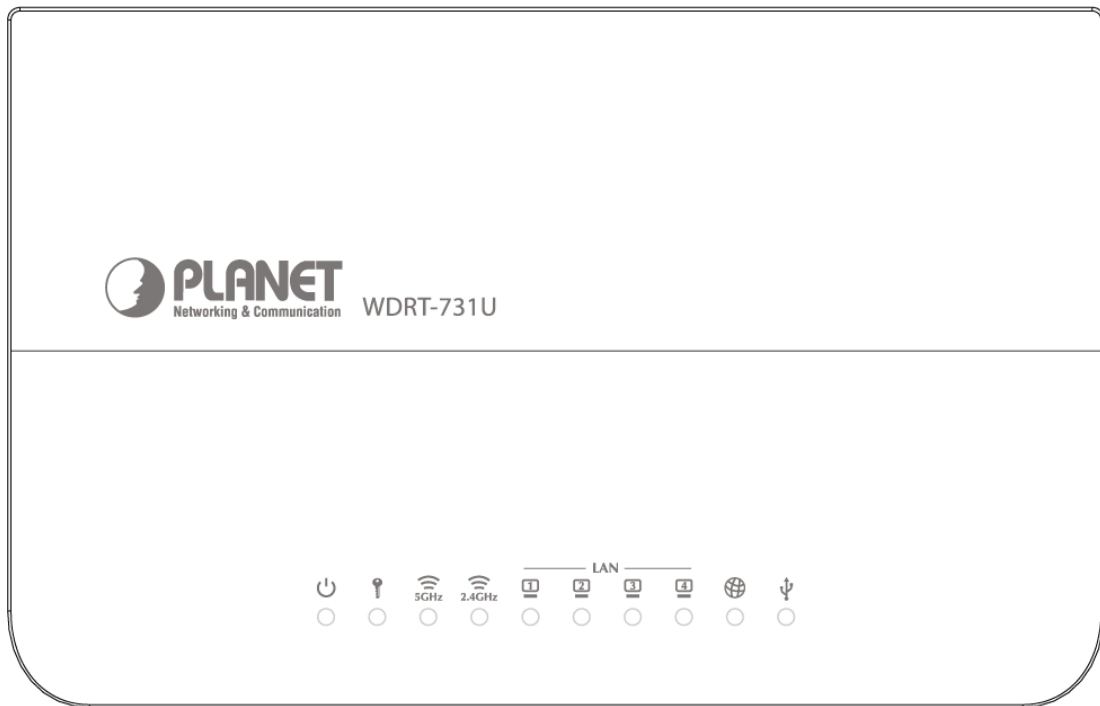
### 3.8 PACKAGING INFORMATION

**Dimension:** 279 x 220 x 70mm (W x D x H)

**Weight:** 650g (gross weight)

20pcs in one carton

## APPENDIX A: Diagram



## APPENDIX B: Default Setting

|                         |                             |
|-------------------------|-----------------------------|
| Default IP Address      | 192.168.1.1                 |
| Default Login User Name | admin                       |
| Default Login Password  | admin                       |
| Default SSID            | 2.4GHz: Default_2.4G        |
|                         | 5GHz: Default_5G            |
| Default Multiple-SSID   | 2.4GHz: Default_2.4G_2      |
|                         | 5GHz: Default_5G_2          |
| Default Country/Region  | America                     |
| Default Channel         | 2.4GHz: Auto                |
|                         | 5GHz: Auto                  |
| Default DHCP Server     | Enable                      |
| Default DHCP Range      | 192.168.1.100~192.168.1.200 |

## APPENDIX C: Verified Printer List

| Brand | Model  |
|-------|--|
| HP    | Officejet j4660  |
|       | Photosmart B110a   |
|       | LaserJet P1008   |
|       | LaserJet 1200 Series PCL5<br>(HP Universal Printer Driver PCL 5) |
|       | LaserJet 1320 PCL 6  |
|       | LaserJet 3015 PCL 5e   |
|       | DeskJet D 1468 series  |
| CANON | PIXMA IP2780   |
|       | PIXMA MP190  |
|       | Inkjet IP1100  |
| EPSON | LQ-300K+ / Me 350  |

\* The WNRT-731U doesn't support GDI printer